



On A Windless Day by Masami Nakajima. 4.7m delta, Minolta α -7700i. [See page 20]

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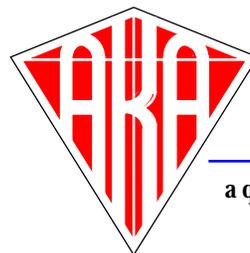
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See page 24 for details.



the aerial eye

a quarterly publication of the aerial photography committee
 of the American Kitefliers Association
 volume 2 / number 3 / summer 1996

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overseas



*Sky Art
 Gallery,
 Berck-sur-mer
 by
 Ralf Beutnagel*

AERIAL TECHNIQUE

the aerial eye

This newsletter is produced by the Aerial Photography Committee of the American Kitefliers Association. It is our goal to publish quarterly, in August, November, February, and May.

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a minor milestone

Most of our charter subscriptions ended with the last issue, and all but 15 have renewed. Even without them, we now have 180 subscribers, and we're straining the printing technology.

Many of you have sent us articles, photos, or words of encouragement, and without all of them we'd be out of business. So keep those pix & letters coming! Deadline is first of month of publication (see left).

Text via Email or on 3.5" (9cm) high-density disk (Mac or IBM in ASCII text format) is preferred, but typed text or handwritten letters are welcome too. Likewise, diagrams in PICT, TIFF, or EPS formats are best, but pen drawings, preferably on white paper, or just quick sketches on the back of the proverbial napkin will work too.

Photos may be sent as negatives, prints or slides. We can also read Kodak PhotoCD, or Macintosh disks in almost any Mac graphic format. We'll keep the prints unless you direct otherwise, but return all negatives, disks, CDs, and slides—eventually.

Send everything to Brooks Leffler at the address below.

our feature this issue: technique...technique...technique

by STEVE EISENHAUER

Technique is both style and method: a product of your equipment, personality, experience and local wind and topographic conditions. Parafoil launching and flying differ from delta-Conyne, delta, or rokkaku kiteflying. A Picavet cradle system behaves differently aloft than a pendulum system. The winder affects technique, particularly if it's not a high-speed retrieval system. A shutter release system affects technique, depending on whether it's a radio control servo or a camera-mounted intervalometer.

Your personality is arguably the biggest determiner of technique. If you're impatient, like me, you like to have a kite in the air in three minutes, and the camera up taking pictures in five.

I prepare beforehand: film loaded in camera, fully-charged radio control batteries, exposure settings preset to expected readings, cradle fully assembled, all kite spars preassembled, camera lens locked on infinity, eyepiece cover in place. I want to focus solely on safely flying my kite and camera, and maneuvering into position to get the desired photographs.

My cradle is not pretty: plastic wire ties, globs of epoxy, black electrician's tape and velcro strips are obvious. Most of the structure is made from an old aluminum ruler bent into shape: the black ruler markings and numbers are still evident.

My kites have repair patches, and the largest kite has both streamer tails and a drogue—an odd combination that works well despite its appearance.

When I'm finished taking photographs, I usually bring my kite down hastily with a

heavy-duty reel. Although I love flying kites, I'm most concerned about getting to the next site to take more photographs. I see beauty in my equipment, but mostly I see function. I look for beauty in my photographs, and in the sky and clouds.

Regardless how different each KAPER's technique is, we can all learn from each other. Wolfgang Bieck's camera rig is twice as heavy as mine, and this stable platform enables him to use slow-speed, fine-grained Kodachrome 25 film with its unequalled accurate color reproduction. Although I usually use a faster film, Fuji-chrome 100, with enhanced color reproduction, there are situations (sunny days, medium winds) when Kodachrome 25 is more appropriate, particularly when I want to enlarge the photographs for scientific analysis (e.g., wetland plant identifications).

Roy Latham uses Sutton FlowForm parafoil kites, which are sparless kites that fit into a small bag. Although I've tried these in the past, I favor the more predictable delta-Conyne design. But I still closely read about his technique and equipment; someday I'll be taking an airplane trip where I can't bring my 6-foot-high kitebag full of delta-Conynes. The choice will be a parafoil, or no kite at all. I may not be able to master Roy's technique in an afternoon, but at least I'll be educated



• continued on next page

technique • from page 3

enough to get a few good photographs.

Discussions about technique allow us to consider equipment changes, and improvements in how we fly and aim. In a sense, technique encompasses all discussion about

KAP, but is always steered by our personalities. We borrow from each other, but make our own mistakes, experience our own successes, and establish our own unique KAP style. No two KAPers look, move, or see a scene the same way.

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exposure and filters

by STEVE EISENHAUER

Many KAPers use auto-exposure cameras that automatically set the shutter speed and lens aperture. For most scenes, the result is a properly-exposed photograph. But if the target is a snow scene or a white sand beach then underexposed photographs may result, and a blacktop parking lot may produce overexposed photographs.

To properly expose very light or dark targets, or for purposeful under- or overexposure, a camera is needed with exposure compensation and/or manual exposure capabilities. In most cases this means a 35mm SLR camera.

Even with an adjustable SLR camera, setting exposure can be difficult. I often use a hand-held incident light meter to read the ambient light, then manually set the camera. The incident meter should be pointed to where your camera will be located: if shooting straight down, hold the meter level, pointed skyward. If shooting into the sun, position the meter with its back angled into the sun to properly expose backlit subjects. Complications arise when you're shooting with the sun low in the sky and the camera pointed in different directions. For these situations, one reading with the meter pointed skyward is often accurate enough, although backlit and frontlit scenes benefit by bringing the camera down to adjust exposure settings.

After sending the camera aloft the light can change: the sun goes behind a cloud or, in late afternoon, the light level decreases quickly as the sun drops toward the horizon. On cloudy days the thickness of the cloud cover changes.

I monitor the light with the incident meter and sometimes bring the camera down to reset it. On cloud-free sunny days use the f/16 rule: set the shutter to the film speed with an f/16 aperture setting (e.g., for ISO 500 film use 1/500 sec. shutter speed, or an equivalent setting combination such as 1/1000 at f/11, or 1/2000 at f/8). Many professional photographers rely on the f/16 rule, particularly for scenics with a high angle sun.

On many SLR cameras, the exposure compensation system allows two stops of adjustment in half-stop increments for both under- and overexposure. For a snow scene, setting the camera for one stop overexposure usually keeps the snow white (not grayish) and brings out details in darker parts of the photograph.

For snow-free cloudy-day scenes with one-third sky, one stop overexposure may still be needed to bring out foreground details. Exposure compensation is especially helpful with slide film and its narrow exposure latitude; many photographers purpose-

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henry does it in a canoe

text, photos, & illustration by HENRY JEBE, Douglas, Alaska

Shooting photos from a ship is fairly easy if most of your wind is created by the ship's travel through the water. If you can watch ahead of the ship some distance, you can see any wind on the water and so be aware of any hazards of wind change. If you are familiar with the ship's route, you can be fairly certain of a steady course. The only real problem shooting from a ship is that if your rig goes down, there is no chance of ever retrieving it again. It will be like the old fisherman's tale—the one that got away.

Shooting photos from a small boat can be equally rewarding. Obviously you need to have just the right range of boat speed to keep the kite and rig aloft, not so much that the kite becomes unstable. If someone you trust is operating the boat you can concentrate on your photography. Operating the boat by yourself while flying the kite and handling all your gear is much more difficult—but you can do it.

Most of the time I shoot my photos without assistance, usually because nobody is available in the location where I am shooting. A lot of times there is nobody close enough even to see what I am doing and become curious!

My first attempts at taking pictures from my motorized canoe were done using a radio-control rig. This left me with too much clutter and too many things to do, plus trying to run my canoe at the same time. The first time out, I breathed a sigh of relief when I got everything back aboard safely. The only two photos I shot were unacceptable.

The second time out, I was not so lucky. With all the juggling of equipment, I wound up stopping the canoe, and everything

wound up in the water (the camera/rig at least four feet underwater). The camera (an underwater Canon AS-6) was just fine; the receiver was sealed in a balloon and was unharmed; the exposed servo has had a glitch ever since (even after cooking it) and isn't reliable. It took a couple of years before I was willing to try again.

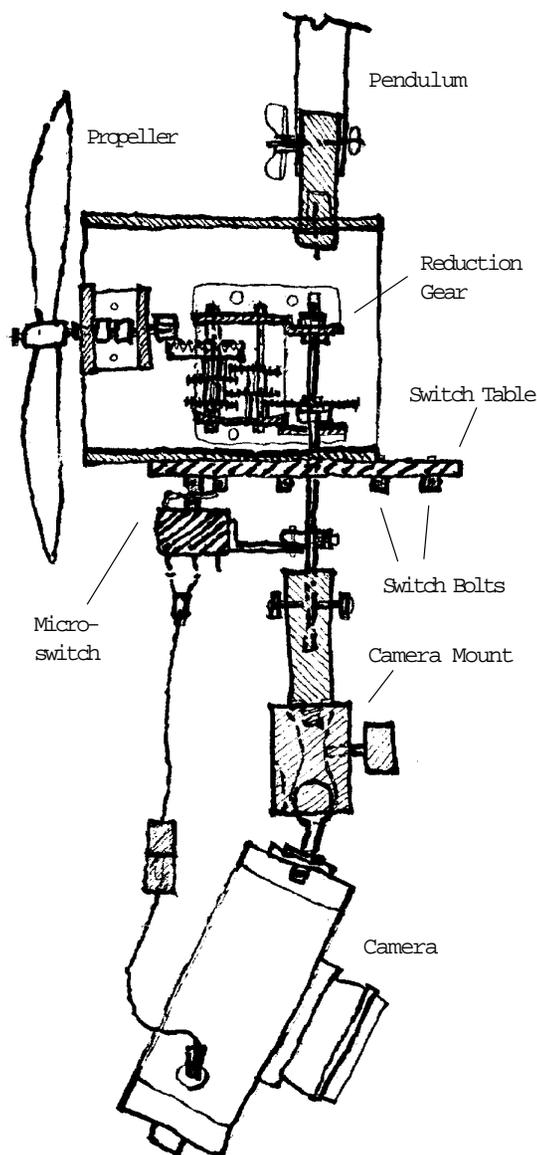
These difficult shots were finally realized with the aid of my music-box movement rig

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windmill camera station

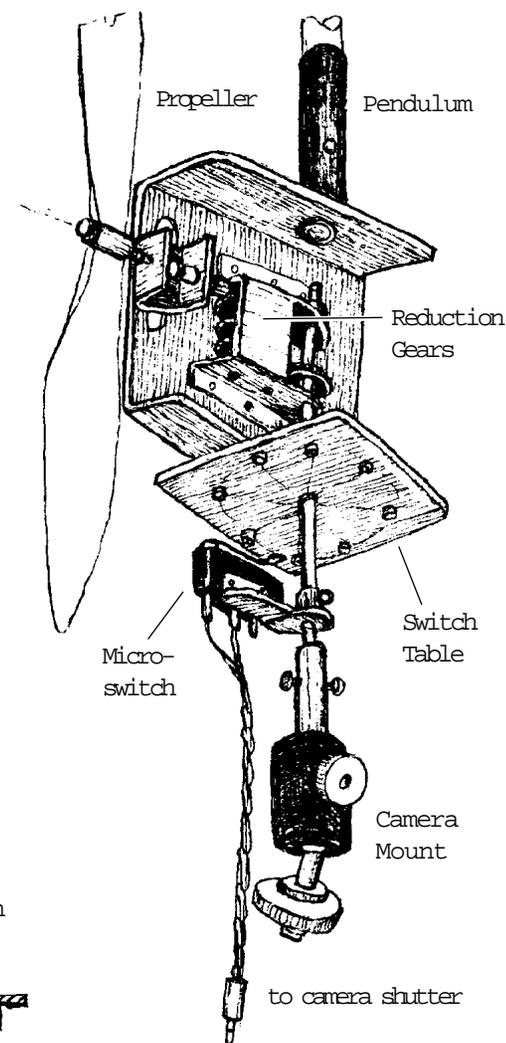
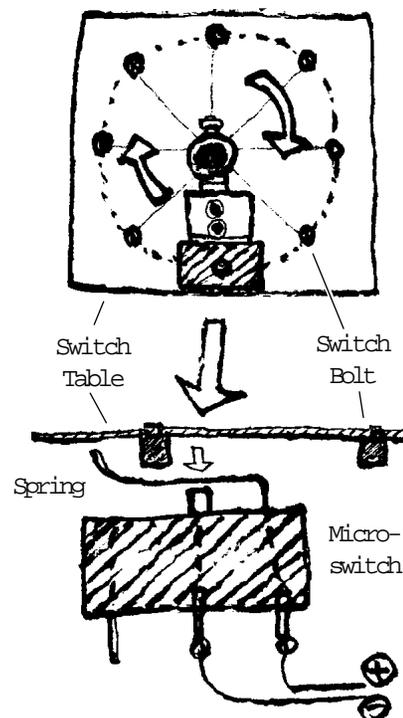
text, photos, & illustrations by KATSUTAKA MUROOKA, President, Japan KAP Association



The windmill-style camera station is a system based on the concept of using wind energy to manipulate the shutter of the camera. Members of our Association have worked together to develop this system.

As you know, the kite flies in the wind. Thus it should be possible to trigger the camera shutter using wind power. Likewise, it should be possible to change the camera angles with the power of wind. It is the basic concept of the system.

This system uses a 12cm (5 inch) plastic propeller. The wind energy is transferred from the propeller to a small gearbox in order to make the entire station rotate once every minute. For releasing the shutter, a circle of eight bolts is installed on a plate, which rotates as the propeller rotates by the wind. Each time a bolt on the plate passes over a microswitch, the shutter on the camera is released to take a picture. With the system, therefore, one picture is taken every 360/8,



or every 45 degrees of horizontal angle.

The camera is held upside down at the bottom of the station from a universal camera mount such as that found on any tripod for photography. The vertical angle of the camera may be changed manually.

from Alviso to Easter Island

by DON DVORAK, Santa Clara, California

While on a SCUBA diving expedition to Easter Island I flew a radio-controlled electric-powered model airplane equipped with a camera for aerial photography. Flying the model proved to be a real challenge with almost constant wind and limited landing area cleared of rocks. Nevertheless, I did manage to take some interesting aerial photos.

Shortly after returning from the expedition I learned about Kite Aerial Photography. This method for taking aerial photos would have been perfect on Easter Island.

This year I decided to return to Easter Island with my fiancée Elaine for our honeymoon. As a project we want to photograph the large stone statues (moai) which Easter Island is known for, from an aerial perspective.

As both of us are new to KAP we wanted to start off on the right foot so we contacted Brooks Leffler and subscribed to **the aerial eye** and ordered all back issues. To ease into the sport of KAP we started with a simple seven-foot delta-Conyne and 500 feet of 110 # dacron line on a hoop winder. We flew it a few times to get the feel of it without any

load. That in itself is enjoyable and relaxing.

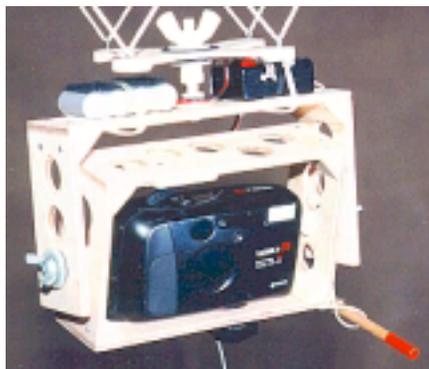
As we got more daring we practiced lifting a 10-ounce block of wood using a two point suspension system to simulate the weight of a camera. With that done it was time to build a camera cradle and suspension system.

Using my model airplane building experience it was natural for me to build a wooden cradle as I have seen in back issues of the aerial eye. Using the KISS (Keep It Simple, Stupid) theory I decided to use 3/16-inch aircraft grade plywood, nylon hardware and only one servo for a shutter release. Both pan and tilt were pre-adjusted before sending the camera aloft.

At first I found the Picavet suspension to be rather intimidating. However, once I decided on using it, I jumped in head first, grabbed the Fall 1995 issue of **the aerial eye** and read the "picavet-past & present" article with undivided attention.

I chose to use the Rendsburg system using a six inch cross beam also made of plywood and screw eyes. Oh yes, let me not forget to mention those wonderful Brooxes Hangups™; mine are made of wood.

I use the Yashica T4 camera, the same one I used on the model airplane. Recently I purchased a Yashica Micro Finesse at a camera show as a backup camera. It is essentially the same size and mounts the same as a T4. However, the shutter buttons are in slightly different locations. In order to use both cameras on the same cradle the shutter servo was mounted on a separate piece of plywood which is then attached to the cradle using two small screws. Whenever the cameras are changed the servo is easily repositioned. The receiver and battery are at-



tached using double-sided mounting tape and tie wraps.

Now it is time to fly.

First attempt was in Death Valley where there was no wind on the valley floor. At Dante's View, overlooking the valley at 5000 feet, there was plenty of wind but very turbulent. A one minute attempt to fly only the kite turned into one minute of terror.

In the second attempt we hoped to photograph the coastline and Morro Rock at Morro Bay, California. But as nature would have it the normal onshore winds were not there due to an inland high pressure.

The third time was a charm. Our first ever kite aerial photographs were taken at the marina of that "internationally famous" town of Alviso. Where is Alviso, you ask. It is a quaint little town located at the south end of the San Francisco Bay where the Guadalupe River flows into the bay. From our aerial photographs you can see the remnants of a few boats that were once part of a thriving marina. It is a place we often go to for relaxing walks on the levees and bird watching.

In this area the wind is strong and blows fairly constantly in one direction, ideal for KAP. The suspension was attached to the kite line about 75 feet below the kite and the wind lifted the camera effortlessly. The first order of business was to capture us on



film for this historic moment. That done, we hauled in the camera, readjusted the pan and tilt to capture the Guadalupe river showing some of the boats landlocked during low tide [see pic].

Future plans are to purchase a larger kite for low wind conditions. At this time we have not decided between a larger DC or an airfoil. Another less expensive option that we may try is to stack two DCs in a train. The next camera cradle will be a full-function one with remote-control tilt and pan. It also will be made from plywood and I believe 1/8 inch would be strong enough.

We are very pleased with our first attempt at KAP and owe much of our success to Brooks Leffler and to all who have contributed articles to **the aerial eye**.

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exposure • from page 4

ly underexpose all slides by one-half stop to get richer colors.

Filters can be used to adapt to different lighting situations, and to produce special effects. Some photographers keep an ultraviolet or haze filter on their lens at all times to protect it.

For aerial photography I occasionally use two filters: a polarizer and an 81B. The polarizer deepens many colors, especially a blue sky, and enhances clouds and helps cut through atmospheric haze. But it also requires one to two more stops of exposure, and must be adjusted before each flight so it

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boundary layers & bluff bodies

by CHARLES C. (CRIS) BENTON, Berkeley, California

Kite flying near buildings is an inherently entertaining—if somewhat nerve-racking—pursuit. In planning your kite launch it is useful to think about two phenomena that influence urban flying: the boundary layer and air flow around bluff bodies—buildings in this case.

Before discussing these I should insert some cautionary language urging common sense. It is your decision whether to put your kite at risk by flying in congested circumstances. But under no conditions should you cause the potential of harm to humans or your subject buildings. Identify and avoid exposed utility lines. Do not fly over or near active roadways. Pay attention to weather trends. Act wisely. Sermonette over.

The boundary layer is a zone of varying wind speeds ranging from near still air at the earth's surface to the steady winds aloft. Generally speaking, wind speeds increase as you get higher above the surface of the earth. Lower winds are slowed and tumbled by the friction of the earth's surface and ob-

jects in the landscape. Eventually as altitude increases you reach a “gradient wind” or air flow that is essentially undisturbed by ground friction.

Over large open fields it may take 250 meters of altitude to reach totally undisturbed winds. Over urban terrain it can be twice that height. In either case, the greatest gains in advancing toward clean air are achieved the first 100 feet of altitude. The scale of turbulent eddies or gusts also changes with altitude. At lower levels the gusts are smaller in scale and they become larger as you rise. So when flying in urban areas, have faith—winds should become stronger as you gain height.

The first hundred feet of altitude are often the most difficult. If you can get your kite to the higher winds you are often rewarded with increased lift and stability. Once the kite has reached stable winds at higher altitude you can attach the camera rig. On occasion I'll have 500 feet of kiteline out before attaching the rig.

I keep track of the higher level winds by looking for windsign in the tops of trees, from steam issued by rooftop vents, from flags, etc. If those clues are favorable I get the kite to higher levels by several methods: 1) the time-honored technique of running with the kiteline, 2) launching from higher points like a rooftop, or 3) taking advantage of local air flow patterns created by the buildings themselves.

Air flow around buildings can be used to advantage. Having declared that winds increase in velocity as you get higher above the ground, let me contradict myself. When you are near large buildings the wind can act in very peculiar ways due to local accelerations, eddies, and reversals. For instance, winds reverse direction and head downward in the “upwind roller” that can form before a large building.

Once the kite is launched, I find a long tail is useful for flow visualization. If you plan to fly near buildings it is well worth your while to seek out and study these indicators. The most useful, i.e. stable and smoothly-flowing, air tends to be on the windward side of a building while turbulence prevails near the edges and in the leeward zone downwind of the building.

On campus it is not unusual for my soft Sutton FlowForms to swing through 90 degrees of the compass as I launch them from quadrangles surrounded by buildings. I've also used the accelerated air between two buildings to gain lift. Sometimes it works and sometimes it doesn't. In any event, anticipate shifts in direction and work hard to keep the kite from fouling on obstructions.

For some time I've wanted to take kite aerial photographs of Wurster Hall, home of UC Berkeley's College of Environmental Design. This is where I work and I'd wondered what it would be like to launch a kite from the roof. I decided to find out.

In the photo you can see my kite launching spot. I'm visible in the upper center of the photo. The wind was blowing between 15 and 20 mph with occasional gusts. I flew the Sutton FlowForm 16 with a ten-meter frilly tail. It was a hard pulling kite in these conditions, making me wish I'd had an assistant.

My launch was a dramatic affair. I first checked the upwind edge of the balcony for clean air. There was far too much turbulence there due to the adjacent building mass rising above the balcony. So, the Sutton FlowForm 16 and its long frilly tail were dropped over the leeward railing. In this zone the kite thrashed around as though in a blender. My charge was keeping the kiteline from chafing on the concrete rail and coaxing the kite toward the stable air above and to the side of the building's wake. After a couple of minutes the kite did catch stable air and then flew above the leeward zone turbulence for the rest of the session. Great fun.

For further reading on architectural aerodynamics try: Ansley, R. M., Melbourne, W. and Vickery, B. J.: *Architectural Aerodynamics*; Applied Science Publishers, Essex, England, 1977.

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in the fall issue:

Kites & Kiteflying

We'll look once again at KAP lifters and kitemaking materials.

Now's the time to share your favorite kite designs and thoughts on tails, trains, and flying techniques.

COPY DEADLINE
AUGUST 1, 1996

back-packer, hip-shooting on the hop

by **ROB GREEN**, Newbury, Berks, England

I have sewn together a body belt using old car seat safety webbing, and fixed a light-weight plastic line reel at hip level, which serves well for rapid launch of the kite from the hand or long-line launch.

After kite retrieval to earth the loose line is rewound by handle of line reel at hip level, or complete belt is removed by quick-release buckle and line retrieved two-handed.

The belt also carries a yachting cleat sewn and bolted to an extension of webbing sewn to the belt in front of me. When the kite and camera have reached a suitable height, the line may be slipped around the cleat several turns for security, or loosely to gain controlled height.



Also loosely attached to the belt is a narrow length of webbing, two carabiners, and a walkdown wheel for conventional walk-down by an assistant. This may also be used with a webbing loop around a secure anchor for one-man retrievals in a truck-pulling wind.

I KAP more easily with an able assistant (daughter Anna) who takes control of R/C. An assistant is of particular importance as a second pair of eyes taking a sideways glance or viewing directly beneath a target area, and even more important with low-angle shots closer to the ground, say 80 -100 ft altitude.

However, I have taken one-man KAPs with success. I prefer always to be in charge of the line at ground base anchor point, or walking about, complete with belt and hip-mounted line reel and retrieval/emergency equipment. The transmitter is looped around my neck and a backpack contains spare films, spare batteries, many spare Prusik loops, sticky tape and light refreshments, and space enough to carry every item after a successful shoot.

Retrieval is usually by hand-over-hand hauling in, or in a strong wind an assistant may use a walkdown or I may do so myself if the line is anchored. Once the camera rig is to hand level, two spring clips are activated from the Prusik loops, and the Picavet suspension system is quickly removed.

Some little tricks include at least four turns on each of the two Prusik loops for "no slide" security. Light weight plastic belt-type key clips make excellent and very quick link-up of Picavet rig to Prusik loops. Finally to

Here are three topics which are important to me for effective operations:

FASTENER

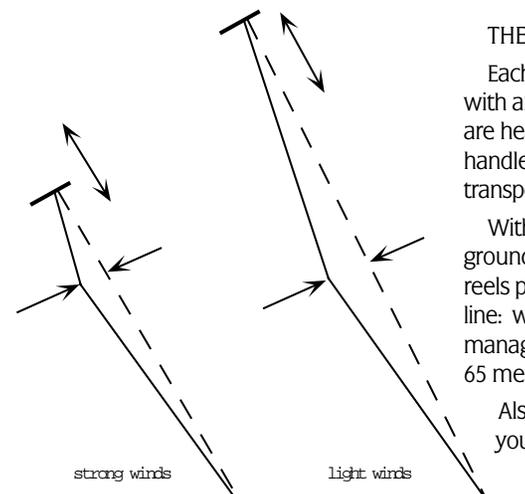
This fastener [right] is the one I use for fixing cradles, flags, or windsocks. It is made with 2mm thickness aluminum. It is quick to install and remove; it doesn't hurt the line; it doesn't slide.

It is convenient for Picavet suspension as well as for pendulum hanging bar. In this case the second fixation of the bar is a simple hook, bent like a paper clip.

KITE-CRADLE DISTANCE

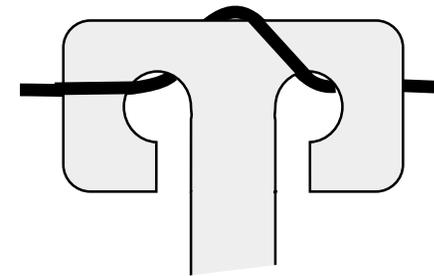
This length of line varies a lot depending on each KAPer. We guess it is something important. There has been little discussion on it as far as I know.

If there is a wind of Force 4 (12 mph) and over, I will lift the kite with 30 meters line only and attach the cradle. If there is light



becot's best

by **CHRISTIAN BECOT**, Tourlaville, France



wind I will lift the kite 50 meters at least, sometimes to 100 m before fixing the cradle [below].

There are many reasons for operating like this: there is the geometry effect as shown in the figure. There are also less vibrations in strong winds near the kite than far from it. In light winds, the higher is the kite, the better it is.

Advantages and inconvenience, and reasons and guesses why could all be discussed. What are other KAPers' practices?

THE REEL, FREE TO MOVE

Each kiter will use the ones he is familiar with and which are most convenient. Mine are heavy wooden reels, with two spinning handles. The handles are removable for transport convenience.

With such reels, I never leave line on the ground, even in case of emergency. The reels perform well for quick rewind of the line: when one is trained, it is possible to manage 100 turns in 30 seconds which is 65 meters for a 20 cm diameter reel.

Also, you are free to move to any place you wish. I have a personal way to

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Above: Annapolis City Dock, Morning, by Craig Wilson



Above: Mylene (the kite) by Axel Kostros. Photo by Wolfgang Bieck

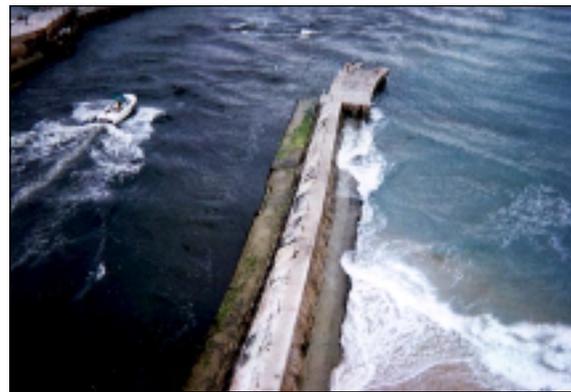
aerial gallery



Above: Dieppe Rooftops by Pierre Mazieres



*R: Dam Yankees by Randy Bollinger
Below: Boynton Inlet, Florida by Bob Pebly
L: Barbara's Kite by Peter van Erkel*



back to berck

by **BROOKS LEFFLER**, editor

Berck-sur-mer is a 19th-century spa on the English Channel about halfway between Calais and Dieppe. Unlike Le Touquet, just up the road, which attracts an affluent international crowd, Berck is a middle-class french resort, not well-known outside France. But for several years now, the city of Berck has sponsored an international kite festival over the Easter holidays which provides a grand beginning for the european kite season.

Kite aerial photography has been intertwined with Berck since the turn of the century, when KAPioneer Emile Wenz selected this huge beach as the site for many of his early experiments. The current Berck kite festival got its start ten years ago when Michel Dusariez staged the first official face-to-face gathering of the Kite Aerial Photography Worldwide Association (KAPWA), which was really a newsletter mailing list, not a club, and is now defunct.

The city, seeing the value of kites to give a jump-start to the spring tourist season, has developed the Berck festival into a ten-day event, with heavy commercial participation, nationwide media coverage, and weekend

crowds of spectators—watchers, not fliers, mind you—in excess of 100,000.

This year, the city invited 400 kitefliers from twenty countries to participate, and in exchange for room and meals, many stayed through the whole ten days, flying kites through fair weather and foul on the beach every day. Weather ranged from foggy and windless to sunny and gusty, with a few snowflakes thrown in one day. It never got above 10 degrees Celsius (51F), but that didn't stop the spectators: on Easter Sunday they were still six deep along the seawall and around the flying fields.

Because of the early ties to KAP, organizer Gérard Clément decided to give some emphasis to our craft on this tenth anniversary. A centerpiece of the festival was the display of our traveling exhibit of aerial photographs, which we have developed in conjunction with the World Kite Museum, using the submissions to the Museum's KAP competition last summer as a foundation.

**Below: The Promenade on a chilly Easter Sunday.
R: Our KAP exhibit drew a good audience.**



GRETCHEN LEFFLER

Alongside our show was a collection of historic KAPhotos of Berck. Most importantly, between invitees and drop-ins, practitioners and wannabees, Berck saw the biggest congregation of KAPers since the days of KAPWA.

"It was great fun to be together with a fine bunch of aerial photographers," said Peter van Erkel. "All aiming for the same — in a different way."

It's hard to know how the european KAPers knew that this was the place to be this week, because many just seemed to show up. Perhaps it was instinct, like butterfly migration.

From Germany came Ralf Beutnagel and Wolfgang Bieck. Peter van Erkel came from the Netherlands, Andrea Casalboni from Italy. From France, Christian Becot, Nicolas Cortyl, Maurice Dehove, Georges Grepin, Bernard Hénon, Pierre Mazieres, Claude Quessada, José Wallois, and a talented 16-year-old from the neighboring city of Amiens named Julien Guilbert. And from the USA, John Johnston, Brooks Leffler, and Craig Wilson.

"Berck was no kite meeting you can go for every weekend," said Ralf Beutnagel. "It was an event."

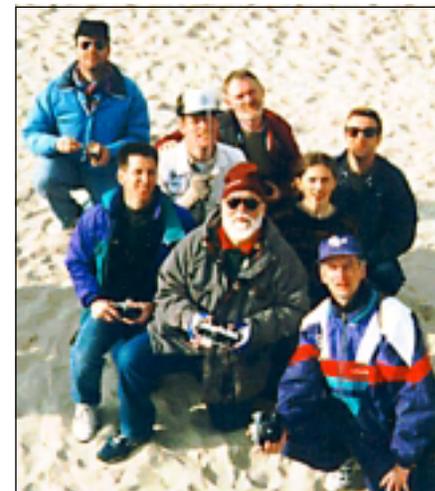
"The Berck festival," added Wolfgang

Bieck, "means to have ten days for K&K (KAP and Kites)."

Not everyone was able to be there through the whole ten days, but we all found each other, and had ample opportunity to compare notes, look at kites and rigs, steal ideas, and swap stories—though sign-language was sometimes necessary.

• *continued on page 18*

Too many cooks? 8 KAPers and it's still a fuzzy picture. L to R: van Erkel, Wilson, Beutnagel, Leffler, Wallois, Guilbert, Bieck, Cortyl.



BROOKS LEFFLER



BROOKS LEFFLER

berck • from page 17

Craig Wilson said, "Gee, they spend lots more time building their rigs than we do!" And so it would appear. Nearly all the european KAPers seem to have electronics skills, and it shows in their equipment. Many had replaced joysticks on their transmitters with rotary "pots"; some had replaced shutter controls with pushbuttons or toggle switches; nearly everybody used an electric relay to trip the shutter instead of a servo. An interesting esoteric detail is that many of the shutter relays send two signals to the camera, one to depress the shutter halfway for focus and the other to click the shutter.

"It works better that way," said Ralf Beutnagel.

The most common camera was the Olympus Mu, known in the U.S. as the Stylus, a compact point-and-shoot rangefinder camera weighing about 6 oz. Most of them had been modified for electric shutter release.

Andrea Casalboni had a big custom wood case containing three or four rigs, ranging in complexity from a simple hanger for an intervalometer camera to a whopper with a directional TV antenna with a range of a mile or more. And each of them finished like a Ferrari engine, with custom graphics on the controls.

Nicolas Cortyl's video rig had a control console on a tripod with built-in antenna mast and monitor.

Ralf Beutnagel demonstrated his cable car and several variations on the Picavet theme, along with his nifty new compact HoVer rig [see **æ** 2.2].

Wolfgang Beick, of course, brought Big Red, easily the most venerable of all camera systems; and Craig Wilson had Old Faithful, easily the busiest and most profitable rig in all of KAPdom.



BROOKS LEFFLER

▲ **Craig's 18' delta almost got eaten alive.**
▼ **Brooks & Christian talk for the telly.**



CRAIG WILSON



BROOKS LEFFLER

▲ **Julien Guilbert makes his world debut.**
▼ **Relative old-timer Maurice Dehove.**



BROOKS LEFFLER

"Hell," said Craig, "when I built my rig, I just went out to the garage to see what materials I could find."

"Ah," said Wolfgang, "first you must have a garage."

Kites, as expected, were nearly as varied. Craig flew his trusty 18-ft delta most of the time, steady and reliable in the light stuff that plagued us much of the week. Ralf had two of his Doperos [see **æ** 1.3], excellent camera lifters in a wide wind range. Christian Becot flew his very attractive Crico, a double-wide cellular design. Wolfgang used his large Multi-Flare, which with a fuzzy tail was rock solid at 200 meters. Most others relied on the strength and stability of the rok-kaku.

"Hey, they fly high and use Kevlar® line," observed John Johnston.

But the opportunity to socialize with other fliers and KAPers was the best part. "Nice people, wonderful friends" left the strongest impression with Ralf Beutnagel. "The smile of Craig, the champagne from José Wallois, the story-tales of Peter van Erkel, the eyes of Andrea Casalboni...."

In Wolfgang's words, it was "a phantastic platform of exchanging experiences to learn from each other. You could feel the spirit of Arthur Batut. I think I'll return to Berck whenever possible!"

exposure • from page 9

polarizes the light on your intended target. The 81B filter helps soften colors on cloudy days, and minimizes the blue cast of days without direct sunlight.

If you use a non-SLR camera, you're limited to using filters that don't appreciably reduce the light passing through the lens. Many filters require 1/4 to 1/2 more film exposure; the resultant underexposure with a non-SLR camera will not be noticeable with negative film, but will be visible on slides.

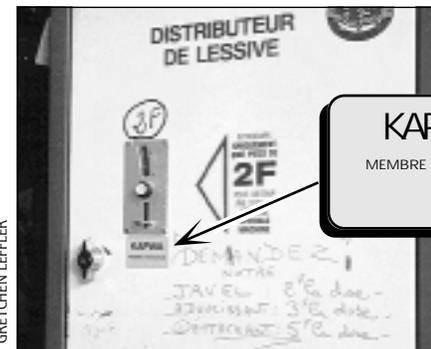
In kite aerial photography, setting exposure and using filters requires forethought and educated estimations. You can avoid these complications and always use an auto-exposure camera to get well-exposed photographs about 90 percent of the time.

But the creativity bug might bite you, and you may become more demanding with exposure levels. Your definition of "well-exposed" may change with each photograph or roll of film, and you may welcome the opportunity to shoot into the sun over a body of water or up a ski slope after a heavy snowfall. If this happens, enjoy the challenge.

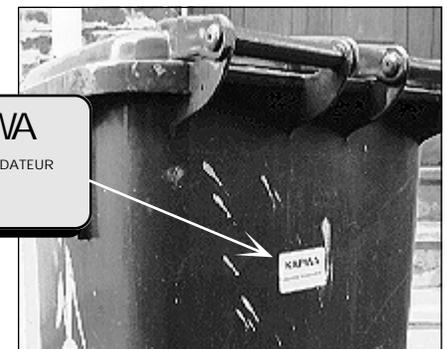
• æ

In Berck, even the graffiti has unusual historic significance. [below]

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GRETCHEN LEFFLER



GRETCHEN LEFFLER

how to KAP without wind

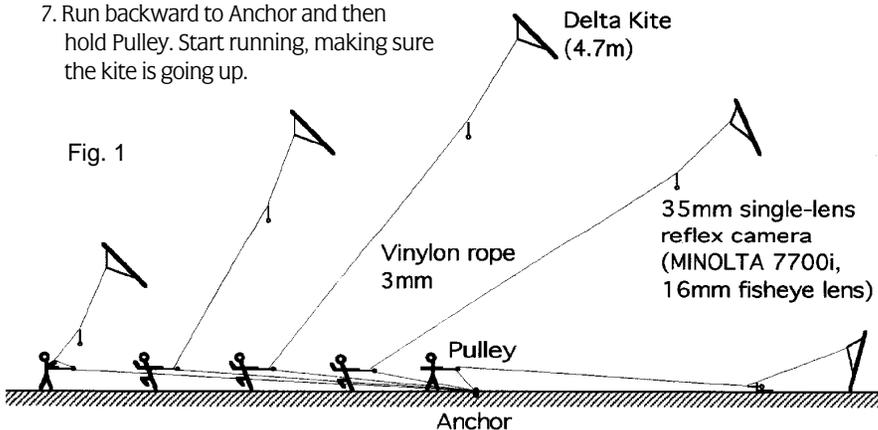
by MASAMI NAKAJIMA, Narashino-shi, Chiba, Japan

Many people believe wind is a must for KAP, but I won't give up even when there is no wind. Two years ago I worked out a way to lift a kite in a windless condition, and on January 2, 1994, I successfully took photos from the altitude of 100m with the method I created [see back cover].

I would like to show you the equipment and procedure used for this method. The system is quite simple and inexpensive. The only difference from usual KAP is that you need to have "guts".

PROCEDURE

1. Stand your kite against tree or fence.
2. Extend kite line twice as long as your desired altitude.
3. Attach camera to line 15 - 20m behind kite.
4. Put camera on Camera Cover (Fig. 1)
5. Tie kite line to Anchor, and lead the line through Pulley.
6. Switch camera self-timer on. Set interval timer to 4-8 sec, and turn it on.
7. Run backward to Anchor and then hold Pulley. Start running, making sure the kite is going up.

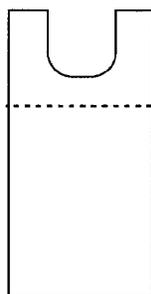


8. Run and pull Pulley as strong as possible.

(This is "pulling" rather than "running" because you need twice as much as strength as usual. Two people may be recommended for this pulling.)

9. Keep running, while checking kite location.

10. You can retrieve your kite just by keeping on running.



HOW TO MAKE CAMERA COVER

1. Cut Acrylic-resin plate 4mm thick as in Fig. 2.
2. Heat along dotted line using gas heater etc. to shape the plate into "L".
3. Cement urethane cushion on the plate (see Fig. 3, opposite).

rookie technique

by BOB PEBLY, Boca Raton, Florida

Once I establish my position, I take several shots at different angles and altitudes from that position.

Based on my experiences so far, I've got a few tips that are probably common sense to the experienced KAPer, but I learned them the hard way.

—Fly your kite first without the camera to make sure you are comfortable with the kite & conditions. Don't be in a rush to get that camera up in the sky.

—Thoroughly check your equipment before going to the site. I had to abort a photo session when I discovered that my timer was jammed.

—Keep a close eye on the weather. I was shooting a roll once at a local inlet and not giving an approaching storm the respect it deserved. The winds kicked up dramatically and presented me with a battle to the death to bring the kite down.

• continued on page 27

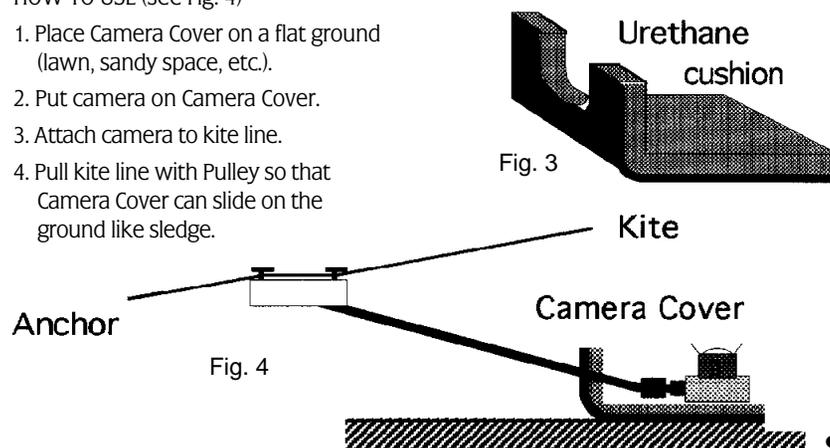
So far, all of my KAP has been done solo without assistance. Since I'm just a rookie (started in January), I've thus far taken the inexpensive approach of using a dethermalizing timer with a disposable camera. Now that I'm definitely hooked, I'm looking to move on to radio control with a better camera.

Because of how I got started, my usual technique is as follows. I usually put up my kite (either an 8' Delta-Conyne or a Flow-Form 16) and tie it off on a stake to start. I then attach a pulley to the kite line that I use to walk down the kite to the camera between pictures rather than wind in the kite after every shot. This makes it much easier to quickly retrieve the camera, set it up for the next shot and get it back in the sky.

Since I tie off the kite, I tend to take at least half a roll of film at each site. I usually have some landscape feature that I'm after—ocean inlets are my favorite so far.

HOW TO USE (see Fig. 4)

1. Place Camera Cover on a flat ground (lawn, sandy space, etc.).
2. Put camera on Camera Cover.
3. Attach camera to kite line.
4. Pull kite line with Pulley so that Camera Cover can slide on the ground like sledge.



canoe • continued from page 5

[see *æ* 2.1, page 10] and for additional safety, the underwater camera. The kite was either a 8' or a 14' Delta-Conyne, depending on the circumstances.

With my musical movement rig, I can shoot four photos per lofting and do away with the need of the radio transmitter in the already-cramped canoe. I have made only two outings with the canoe so far, but both sessions produced acceptable results.

To control the kite and line, I have a heavy duty 8-inch steel reel (a hand gurdy intended for commercial fishing), which is mounted on a board across the boat in front of me. The line from that reel passes forward to a small pulley in the bow of the canoe.

I reel off enough line to attach my pendulum rig so it will be right in front of me as everything goes aloft. I have the rig only 30' to 50' from the kite in this instance. When I

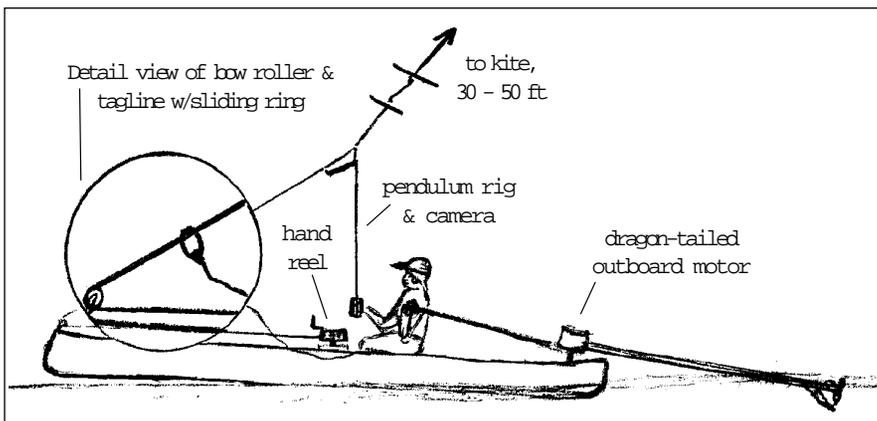
start out the kite is in my hand. When the canoe is up to speed, I let out the kite; the rig lifts out of the canoe and hangs right in front of me. I can then aim and wind the musical movement while the boat is running.



When everything is ready, I just let out line to the desired altitude, and run the canoe for about five minutes over the intended course. After the time is up, I reel down and rewind the music box, re-aim if necessary, and send it back up again.

The next refinement I intend is to use a sliding ring on a short piece of line (to go from the kiteline between the bow roller and the rig), just enough so I can haul it close enough to reach the rig when reeling down in cross-wind situations. The last time out, I nearly turned the canoe over trying to reach for the rig hanging far over the side. It was either that or run the canoe aground and have the rig then glide down on its own.

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heavenly body

by CRAIG WILSON

If you are in the market for a new body then you should take a look at the new one by Pentax. I just returned from Berck, France, where I tested my new Pentax ZX-5, and I really like this camera.

After reading reviews of this camera in one of the photography magazines I decided to give it a try. It has a few features that

the camera I was using didn't have, and because it is smaller, better-balanced, and a bit lighter, I decided to upgrade.

The ZX-5 uses two very small and very light 3 volt CR-2 lithium batteries. This choice of battery allows the camera to be much more compact. Its center of balance is actually quite close to its physical center, which makes it easy to balance, control, and design a rig around. For me, my existing rig works just fine; I merely had to make a new hole for the tripod mounting screw.

What I really like about the ZX-5 is that it has almost everything a KAPer could want, and it is a great camera for the non-KAP shooting that you want to do. It features a 15oz body (including batteries), auto or manual focus, up to 1/2000th shutter speed, exposure compensation, shutter or aperture priority or full manual modes, electronic shutter release, three

different metering systems to select from (spot, center-weighted, and six-segment), and it uses Pentax lenses which are affordable, very high quality, and available in many focal lengths.

The ZX-5 has a built-in pop-up flash, with red-eye reduction for those non-KAP Kodak moments, and of course it has motor-driven film advance and power zoom capability.

You may think that for the money (around \$400), many cameras offer these features. What is so special about this one?

Two things: It has the important features without any bogus, frilly gimmicks found on many so-called idiot-proof cameras. Things like special programs for close-ups, scenic, or night-time shooting. Secondly, the ZX-5's greatest asset is its return to the old style of using large dials to control the camera functions instead of tiny buttons too small to push with your finger. I can use this camera without having to take my gloves off.

So, dials and LCD screens that are easy to read and understand make this camera a pleasure to use whether you are lifting it with a kite or holding it up to your head like a normal person.



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back-packer • from page 12

prevent transmitter control sticks from self-centering I have carefully cut to length a plastic collar for each, which applies enough "brake" pressure between stick axis and transmitter body quadrant below.

Concerning safety measures, a second pulley or walkdown is carried for one-man strong-wind retrieval, and is secured to a second ground anchor, allowing the pilot to walk

back to the first pulley to reclaim the rig and subsequently the kite.

In the event of a life-threatening situation the safety belt buckle can be unsnapped totally releasing the pilot. I always avoid crazy winds, blustery and too strong, and keep to lower altitude in stronger wind, making retrieval less exhausting. Finally keep all airborne equipment as lightweight as possible for fear of impact on property or living creature.

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becot's best • from page 13

maintain the reel during picture-taking with radio-control. I simply put it between my legs, one handle behind, the other in front, in order to avoid unwinding.

On some places, I remember having to walk for half a mile with the kite and came-

ra in the air, stopping from time to time to shoot with different angles of view.

Being free to move is also important when you are facing a thermic wind, especially during summer, or near cities. By shifting yourself to the right or the left, you will avoid misfortune.

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be a FLiBber '96!

The Second International Kite Aerial Photography Days in Bad Bevensen, Germany, will take place during the week of 7 - 13 October 1996. [Fesseldrachen-Luftbild-Tage in Bad Bevensen = FLiBB 1996]

The seminar is being organized by Ralf Beutnagel, Wolfgang Bieck, Otto Böhnke, Michael Haugrund, and Harald Prinzler. Wolfgang and Michael organized the first such event for KAPWA at Bad Bevensen in 1993, which attracted 24 KAPers from five countries.

The organizers hope to reach KAPers around the world and intend to conduct the event in the best spirit of Arthur Batut. As such, the event will be devoted to the exchange of experiences and technical know-how, experimentation, and discovery. Sessions will most likely be conducted in English.

Workshop topics will include video control, Picavet suspension, conversion of servos to 360-degree rotation, and use of KAP in archaeology and biology. Excursions will include a visit to the Rollei works in Braunschweig and KAP opportunities of historic sites. Plenty of social time too.

Workshop sessions and living accommodations will be in the Gustav Stressman Institute, originally a gothic inferior court built about 1540. It's situated in the valley of the river Ilmenau, about 80 km southeast of Hamburg.

Registration fees, including room and board and excursions, but not air fare, are as follows:

- a. General program, Monday-Sunday US\$360.00
- b. Weekend program, Friday-Sunday US\$140.00

For information, contact Wolfgang Bieck at his address on page 2.

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kiteology • kiteologist • kiteography

by WOLFGANG BIECK

The clock showed 4:11 a.m. when I awoke one day in 1989 from a dream. It was the dream of a new, international name: "kiteology" or "kiteologist".

The evolution of kites dates back more than 3000 years and explodes nowadays. We are using scientific terminology in sciences like biology, meteorology, physiology, psychology etc., but not yet in the store of knowledge for kites.

As kiteologists we have to think about history, materials, physics, aeronautics, mechanics, electronics, chemistry, photography, meteorology, biology, mathematics, geology, geography, archaeology, arts and the law too. Kiting is a huge field and worthy to be called by a name of its own as an autonomous part of sciences.

Great pioneers were kiteologists: W. Allison, A. Batut, J. Bates, A.G. Bell, S.F. Cody, W.A. Eddy, B. Franklin, G. Gayley, L. Hargrave, O. Lilienthal, G. Marconi, F.M. Rogallo and more... The circle of aerial-photo-kiteologists includes many inventors, as KAP history documents. In this way my suggestion aims at a new consciousness of those who do not only want to be a kiter or a KAPer.

William Warner from Norway added the term "kiteography" in æ, spring 1996. In my opinion his article is fundamental, and shows the power KAP bears as a method.

In Niger, Africa, Dr. Andreas Buerkert from the Institute of Plant Nutrition at the University of Hohenheim works at the ICRI-SAT Sahelian Centre of Niamey. In spring 1995 I equipped him with a camera-suspension so he could use KAP for his sci-

entific work. The range of KAP increased from 0% to about 90% until now. He regularly works at a height of 500 m.

With his method he is able to document the spatial variability in millet growth, contribute to its explanation, and better design agricultural experiments on acid sandy soils.

I studied biology too and so I was fascinated by the article of William Warner. Immediately I informed Dr. Buerkert about this kiteographic method. They are in contact now.

This shows the real important function that the subscriber directory can serve (Well done, Brooks!). I thought, it would be a wonderful opportunity to combine both methods in a synergistic way, for example to detect erosion-problems in advance to save time, money and existential food for people. I'll report later more about the work of Dr. Buerkert.

When you read this you may feel the worth of **the aerial eye**-magazin. It allows subscribers and readers worldwide to use the knowledge of all its authors. Arthur Batut, the inventor of KAP dispensed with a patent for his method. So I do hope the spirit of this great man will lead us further on.

Thank you, William Warner!

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aerialletters

I have enjoyed reading all of the issues of **the aerial eye**. I think the publication is a fine example of what is possible with desk-top publishing and volunteers contributing.... I have learned much from the technical articles and have enjoyed the artistic perspectives of some of the KAPers, especially the work of Craig Wilson.

I have talked with [my colleagues] at the *National Geographic* about KAP and there is much interest.

Peter Essick
Brooklyn, NY

You may want to tell KAPers to check first before shooting near U.S. memorials. At the Gateway Arch in St. Louis, they said "NO" on close-range KAP. The Arch is 630 ft high; you may not fly higher than 500 ft and within 250 ft of the base line. O well!

Randy Bollinger
Ferguson, Missouri

With all the information in **æ** I was able to build my first camera rig. I took my 2.5m delta out of the dust and the Canon Prima p&s camera that we own. The only equipment to be purchased was a 2-channel RC-

set and some aluminium strip.

And now I'm sitting here with my very first aerial photographs. They are not worth to be published; they appear to be underexposed for some unclear reason, but I'm very happy that the system worked. I hope to be able to send you some photos in the near future.

Peter Bults
Holthees, The Netherlands

Since Berck I changed my equipment a little bit. [see "Ralf's Very Compact Hover-Rig" **æ** 2.2, p. 25] For to "hover," I had to move one of the sticks of the transmitter. It worked, but if you touched it without noticing, the pictures will be oblique. Now I built into my transmitter a switch. I can correct the endpoints and it is more functional.

Ralf Beutnagel
Braunschweig, Germany

While Ralf was modifying his rig, I was working on the same idea in splendid isolation, substituting a toggle switch for the joystick controlling horizontal/vertical format on a 4-channel rig I'm building. While I was at it, I substituted a push-button for the shutter. Ralf didn't send a photo of his modification, but here's a pic of mine [left]. One of us will write up the conversion for a future issue. —bgf

Thanks for keeping the magazines so informative. Here's a tip from me (who's yet to take an aerial shot but plan to someday): At the local camera repair shop I had my Olympus Infinity 5 affixed with a remote shutter wire — cost \$10.00. I plan to use a cherry switch activated by a servo. Theory: the camera should get less shutter-activated movement this way, as opposed to the servo contacting the original shutter release.

Randy Shannon
Flagstaff, Arizona

Thanks to all of the great information in the past issues of **the aerial eye** I was able to construct a variation of Brooxes Better Brownie Box [**æ** 1.1]; suspend the camera from a classic Picavet suspension [**æ** 1.4] and loft it all with a 7.5' Delta-Conyne [**æ** 1.3]. I use a Fuji point-and-shoot camera because the camera pulls the film out of the cassette and winds it back in as you take pictures. In case of a mishap, at least most of the exposed pictures are safe! I can report that of the 17 pictures I shot on my first flight only one was unacceptable due to blur.

Jon Laqua
Eagan, Minnesota

Got all the back issues of **æ**.... I can't remember ever reading a newsletter that was so chock full of good, useful info. I hope I can find a way to contribute to it as I move through my "rookie" KAPer season. ...I did have a chance to chat with Craig Wilson after he returned from France. He was very helpful, and suggested the first thing I ought to do was get out and rekindle my childhood memories of kite flying. Which is what I intend to do. Thanks again.

Paul Fieber
Madison, Wisconsin

I've received the first six issues of **the aerial eye** and am delighted with the treasure trove of information on KAP. Congratulations on a stunning mag!

I'm laying out a Marshall Delta-Conyne to your diagram in the [Summer '95] issue, and am ready to start cutting and sewing rip-stop for an eight foot span version. I have a simple Pentax point and shoot camera to set up for my initial experiments.

Your publication is certainly inspiring, and I'm eager to get involved! Sincere thanks.

Bob Eskridge
Miami, Florida

Thanks for the first four numbers of **æ**: I have read all of it. I'm astonished by all the experience herein, and high level of most papers. Many of them are the best ones I ever read on the subject. Thanks to all authors.... No doubt that in a few years, KAP will be different with well-known concepts, confirmed systems, and abandonment of mis-designs, wrong techniques and unworkable ideas that are still alive.

Christian Becot
Tourlaville, France

For future magazine articles, is it possible to grade the best shots in order of clarity and sharpness etc, as this is not possible to evaluate looking at the magazine reproduction. Then it may be possible for us all to improve equipment and technique.

Rob Green
Newbury, Berks., U.K.

Rob, I'm not sure my subjective judgement is going to provide you with a standard which will be helpful. Our process allows considerable manipulation of image quality, and all photos are tweaked to some degree. What we need is a more expensive printer! —bgf

• æ

rookie • from page 22

—Walk down the kite rather than wind it in. If I had been thinking, I would have done so rather than battle the wind with a winder!

—Keep some of your KAP samples or a portfolio along with your gear. We have an unusual hobby and people are often fascinated and ask to see the results.

Finally, I'd like to take the opportunity to thank the KAP community for the wealth of information in **the aerial eye** and also Cris Benton for his fantastic KAP pages on the Web.

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